

AMENDMENTS TO THE SPECIFICATION

Please replace the paragraph of page 7, lines 10-20 with the following amended paragraph:

Regardless of the specific form of scheduling logic 350 used, when scheduling logic 350 determines that a particular data packet 340i should be processed from a particular input interface queue 320k, scheduling logic 350 transfers the data packet 340i to subsequent portions of the networking device (not shown) for further processing. During this period of packet processing, when a new packet arrives on any interface, the RX interrupt for that interface is set if it is not already set, and the new packet is written into the appropriate input interface queue. Eventually, data packet 340i is written into an output queue 360, at the output of which the data packet 340i is finally transmitted from the networking device on an output interface 370. There may be multiple output interfaces ~~370a-370q~~ with corresponding output queues ~~360a-360q~~, although these are not shown so as not to overcomplicate the present discussion.

Please replace the paragraph beginning at page 15, line 17 to page 16, line 5 with the following amended paragraph:

FIG. 5 is a state transition diagram 500 illustrating an embodiment of the present invention in which a single processor is available to act as both the arrival rate estimator 410 and as the rate based scheduling logic 420 of FIG. 4. As shown in FIG. 5, in the context of this embodiment of the present invention, the processor can be thought of as dividing its time between a first sampling state 510 and a second rate based polling state

520. During a time interval denominated as T_{SAMPLE} , the processor operates in the sampling state 510. Regardless of the particular implementation, the purpose of sampling state 510 is to generate a new set of estimated data arrival rates, r_{new} , for each of the n $[[K]]$ input interface queues in the network device. Once the T_{SAMPLE} time interval has elapsed, the processor operates in the rate based polling state 520 during a time interval denominated as T_{POLL} .